IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant	:	Jean-Marie Poulet et al.	
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TC/A.U.	:	1796	
Examiner	:	Bijan Ahvazi	
Title	:	USE OF YTTRIUM, ZIRCONIUM, LANTHANUM, CERIUM, PRASEODYMIUM AND/OR NEODYMIUM AS REINFORCING AGENT FOR AN ANTICORROSION COATING COMPOSITION	
Docket No.	:	CRE-17902	
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APPEAL BRIEF

Sir/Madam:

This Appeal Brief is being filed in accordance with 37 C.F.R. §41.37 within two months of the Notice of Appeal that was filed in this matter on August 9, 2010. Please charge our Deposit Account No. 18-0160, Our Order No. CRE-17902 in the amount of $270.00 to cover the fee referenced in 37 CFR § 41.20(b)(2). If any additional fees are due for this filing, please charge such additional required fees to our Deposit Account No. 18-0160, Our Order No. CRE-17902.

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I. REAL PARTY IN INTEREST

The real party in interest or owner of the present application and the technology and inventions embodied therein is Dacral, whose principal mailing address is 120 Rue Galilee, Zaet De Creil St, Maximin, Creil, France 60100. An assignment transferring rights from the inventors to Dacral was recorded January 10, 2007 with the United States Patent and Trademark Office and can be found at Reel 018737, Frame 0478.

II. RELATED APPEALS AND INTERFERENCES

The application is not involved in an interference proceeding and there are no related appeals.

III. STATUS OF CLAIMS

The application was filed on January 13, 2006 and was accompanied by a Preliminary Amendment.[1] Claims 1-35 and 37-38 were presented for examination.

A first Office Action was mailed on October 17, 2008 in which claims 11-32 were rejected and claims 1-10 and 33-38 were withdrawn.[2] In that same Action, several claim objections were made. Specifically, claims 17-19, 21, 23, 25, 27 and 30 were rejected under 35 USC §112, second paragraph for alleged indefiniteness. In addition, claims 11-32 were rejected under 35 USC §103 for alleged obviousness based upon WO 02/38686 to Maze et al. in view of US 2004-0062873 to Jung et al.

On January 19, 2009, Applicant filed its Response "A" in which various clarifying amendments and explanations were presented in support of the allowability of claims 11-32. And, new claims 39-57 were presented for examination.

A second and final Office Action was mailed on March 17, 2009 in which all claims 11-32 and 39-57 were rejected. Specifically, an objection was raised concerning claim 24. Claims 11-32, 39-41, 43-51, and 53-57 were rejected under 35 USC §103 based upon WO '686 to Maze et al. in view of US '873 to Jung et al. Claim 42 was rejected under §103 for alleged obviousness based upon Maze et al. in view of Jung et al. and further in view of US Patent 5,250,325 to Phillips et al. Claim 52 was rejected under §103 for alleged obviousness based upon Maze et al. and Jung et al. and further in view of US Patent 5,250,325 to Phillips et al.

On July 16, 2009, Applicant filed its Response "B" in which clarifying amendments were presented to claims 11, 23, 24, 30, 39, 47 and 51-52. Claims 1-10, 14, 17, 22, 25, 33-35, 37-38, 46, and 50 were cancelled. New claims 58-62 were presented for examination.

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[1] The present application was filed under 35 USC §371 based upon international application PCT/IB2004/002450, which claims priority upon FR 0308596 filed by July 15, 2003. The international application published as WO 2005/005559.

[2] A provisional election with traverse of claims 11-32 was made by Applicant's Attorney on September 25, 2008 in response to a telephone call from the Examiner.

An Advisory Action was mailed on July 23, 2009 contending that the amendments would not be entered because they were presented after a final Action.

Applicant refiled its previous Response B accompanied by a Request for Continued Examination (RCE) on August 11, 2009.

An Office Action was mailed on October 5, 2009 in which all pending claims 11-13, 15, 16, 18-21, 23, 24, 26-32, 39-45, 47-49, and 51-62 were rejected. Specifically, claims 11, 12-13, 15, 16, 18-21, 23, 24, 26-32, 39-45, 47-49, and 52-62 were rejected under 35 USC §112, first paragraph. Claims 11-13, 15, 16, 18-21, 23, 24, 26-32, 39-41, 43-45, 47-49, 51, and 53-62 were rejected under 35 USC §103(a) as unpatentable over WO 02/38686 to Maze et al. in view of US Patent Application Publication 2004/0062873 to Jung et al. Claim 42 was rejected under §103(a) for being unpatentable over Maze et al. in view of Jung et al and further in view of US Patent 5,399,210 to Miller. Claim 52 was rejected under §103(a) for being unpatentable over Maze et al. in view of Jung et al. and further in view of US Patent 5,250,325 to Phillips et al.

On January 19, 2010, Applicant filed its Response "C" in which clarifying amendments were presented to claims 11, 18, 19, 30 and 62. Claim 42 was cancelled. In addition, a Declaration in support of the patentability of the claims was filed under 37 CFR §1.132.

On April 7, 2010, a final Office Action was mailed in which the rejection of claims under §112, first paragraph was withdrawn. However, the remaining rejections of all pending claims 11-13, 15, 16, 18-21, 23, 24, 26-32, 39-41, 43-45, 47-49, and 51-62 were maintained.

A Notice of Appeal was filed on August 9, 2010.

The pending claims are set forth in the Claims Appendix, which is attached hereto for the Board. The rejections of claims 11-13, 15, 16, 18-21, 23, 24, 26-32, 39-41, 43-45, 47-49, and 51-62 are under appeal.

IV. STATUS OF AMENDMENTS

No amendments were filed in the application subsequent to the final rejection mailed April 7, 2010.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claimed subject matter at issue is recited in rejected claims 11-13, 15, 16, 18-21, 23, 24, 26-32, 39-41, 43-45, 47-49, and 51-62.

Independent claim 11 is the only independent claim and recites an anticorrosion coating composition for metal parts. The composition contains 10% to 40% by weight of at least one particulate metal [p. 4, lines 22-23][3] and 0.5% to 10% by weight of a reinforcing agent [p. 4, line 31] for the anticorrosion properties of the composition selected from the group consisting of yttrium, zirconium, lanthanum, cerium, praseodymium and neodymium [p. 4, lines 13-16], in the form of oxides [p. 4, line 15]. The composition also contains 3% to 20% by weight of a binder [p. 5, line 11], wherein the binder is a mixture of an alkoxylated silane and another component [p. 5, lines 15-19]. And, the composition additionally contains either water optionally associated with one or more organic solvents [p. 5, lines 23-27], or one or more inter-miscible organic solvents selected from the group consisting of white spirits, alcohols, keytone, aromatic solvents, glycol solvents, acetates, nitropropane and their mixtures [p. 5, line 28 to p. 6, line 3].

Dependent claim 12 recites the reinforcing agent for the anticorrosion properties of the composition is associated with molybdenum oxide (MoO_3) [p. 2, lines 6-9].

Dependent claim 13 recites the composition of claim 12 contains 0.5% to 2% by weight molybdenum oxide (MoO_3) [p. 7, lines 10-12].

Dependent claim 15 recites the particulate metal is selected from the group consisting of zinc, aluminium, tin, manganese, nickel, their alloys, and their mixtures [p. 4, lines 24-25].

Dependent claim 16 recites the particulate metal is selected from the group consisting of zinc, aluminium, their alloys and their mixtures [p. 4, lines 26-27].

Dependent claim 18 recites the reinforcing agent for the anticorrosion properties of the composition is yttrium oxide [p. 2, lines 1-5].

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[3] All references to page and line numbers are with regard to the international application PCT/IB2004/002450, published as WO 2005/005559.

Dependent claim 19 recites the reinforcing agent for the anticorrosion properties of the composition is cerium oxide [p. 2, lines 1-5].

Dependent claim 20 recites the reinforcing agent for the anticorrosion properties of the composition is selected from the group consisting of La_2O_3, Pr_6O_{11}, Nd_2O_3 and ZrO_2 [p. 3, lines 9-24].

Dependent claim 21 recites the reinforcing agent for the anticorrosion properties of the composition is associated with molybdenum oxide (MoO_3) in a weight proportion of 0.25 < anticorrosion property reinforcing agent: MoO_3 < 20 [p. 4, lines 1-5].

Dependent claim 23 recites the other component of the binder is selected from the group consisting of a silicone resin, a colloidal silica, a silicate of sodium and/or potassium and/or lithium, a zirconate, a titanate, an epoxy resin, a phenoxy resin, an acrylic and their mixtures [p. 5, lines 15-19].

Dependent claim 24 recites the alkoxylated silane is γ-glycidoxypropyl-trimethoxysilane or γ-glycidoxypropyltriethoxysilane [p. 5, lines 15-19].

Dependent claim 26 recites the composition further contains up to 7% by weight of a thickening agent [p. 6, lines 6-8].

Dependent claim 27 recites the thickening agent of claim 26 is selected from the group consisting of cellulose derivatives, xanthane gum, associative polyurethane thickeners or acrylic thickeners, silicas, silicates, organophilic clays, and their mixtures [p. 6, lines 9-14].

Dependent claim 28 recites the composition further contains a lubricating agent to obtain a self-lubricated system selected from the group consisting of polyethylene, polytetrafluoroethylene, MoS_2, graphite, polysulfones, synthetic or natural waxes and nitrides, and their mixtures [p. 6, lines 15-18].

Dependent claim 29 recites the composition further contains an additive selected from the group consisting of an antifoam agent, a wetting agent, a surfactant and a biocide [p. 6, lines 19-25].

Dependent claim 30 recites the composition of claim 11 which contains 10% to 40% by weight of at least one particulate metal [p. 6, line 28], 0.5% to 10% of a reinforcing agent for the anticorrosion properties of the composition selected from the group consisting of yttrium, zirconium, lanthanum, cerium, praseodymium and

neodymium, in the form of oxides, optionally associated with molybdenum oxide (MoO_3) [p. 6, lines 29-32], up to 7% by weight of a thickener [p. 7, line 1], 3% to 20% by weight of a binder [p. 7, line 2] wherein the binder is a mixture of an alkoxylated silane and another component [p. 5, lines 15-19], up to 3% by weight of a sodium and/or potassium and/or lithium silicate [p. 7, lines 3-4], up to 7% by weight of one or more lubricating agents [p. 7, line 5], 1% to 30% by weight of an organic solvent or a mixture of organic solvents [p. 7, line 6], and water to make up to 100% [p. 7, line 9].

Dependent claim 31 calls for the composition of claim 30 and that the composition further contains 0.1% to 10% by weight of a weak mineral acid [p. 7, line 9].

Dependent claim 32 recites the composition of claim 30 which further contains 0.01% to 1% by weight of an anionic surfactant [p. 7, line 8].

Dependent claim 39 recites the composition of claim 11 contains from 1% to 8% by weight of the reinforcing agent [p. 4, lines 30-32].

Dependent claim 40 recites the composition of claim 39 contains from 1% to 7% by weight of the reinforcing agent [p. 5, lines 1-2].

Dependent claim 41 recites the composition of claim 18 in which the reinforcing agent is yttrium in the oxide form Y_2O_3 [p. 2, lines 30-31].

Dependent claim 43 recites the composition of claim 19 in which the reinforcing agent is cerium in the oxide form CeO_2 [p. 3, lines 17-18].

Dependent claim 44 recites the composition of claim 21 in which the reinforcing agent is associated with molybdenum oxide (MoO_3) in a weight proportion of $0.5 <$ anticorrosion property reinforcing agent: $MoO_3 < 16$ [p. 4, lines 1-5].

Dependent claim 45 recites the composition of claim 44 in which the reinforcing agent is associated with molybdenum oxide (MoO_3) in a weight proportion of $0.5 <$ anticorrosion property reinforcing agent: $MoO_3 < 14$ [p. 4, lines 1-5].

Dependent claim 47 recites the composition of claim 11 in which the glycol solvents include glycol ethers [p. 6, line 1].

Dependent claim 48 recites the composition of claim 47 in which the glycol ethers are selected from the group consisting of diethyleneglycol, triethyleneglycol, dipropyleneglycol, polyethyleneglycol, and their mixtures [p. 6, lines 1-3].

Dependent claim 49 recites the composition of claim 30 contains between 0.05% and 2% by weight of a sodium and/or potassium and/or lithium silicate [p. 7, lines 3-4].

Dependent claim 51 recites the composition of claim 11 and the alkoxylated silane is organofunctionalised [p. 5, lines 15-19].

Dependent claim 52 recites the composition of claim 11 and the binder is associated with a phenolic crosslinking agent or an aminoplastic crosslinking agent [p. 5, lines 15-22].

Dependent claim 53 recites the composition of claim 27 and the thickener includes a cellulose derivative [p. 6, lines 9-14].

Dependent claim 54 recites the composition of claim 53 and the cellulose derivative is selected from the group consisting of hydroxymethyl cellulose, hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropylmethyl cellulose, and their mixtures [p. 6, lines 9-14].

Dependent claim 55 recites the composition of claim 27 and the thickener includes silicates [p. 6, lines 9-14].

Dependent claim 56 recites the composition of claim 55 silicates are selected from the group consisting of silicates of magnesium, silicates of lithium, and their mixtures [p. 6, lines 9-14].

Dependent claim 57 recites the composition of claim 31 and the weak mineral acid is boric acid [p. 6, line 24].

Dependent claim 58 recites the composition of claim 11 and the particulate metal is added to the composition in powder form of varying geometric structure, homogenous or heterogeneous, and in particular of spherical, lamellar or lenticular structure [p. 2, lines 13-15].

Dependent claim 59 recites the composition of claim 41 and the yttrium oxide Y_2O_3 is used in the form of particulates having a size of between 1 µm and 40 µm with a D_{50} of less than 3 µm [p. 3, lines 1-6].

Dependent claim 60 recites the composition of claim 12 and the molybdenum oxide (MoO_3) is in an essentially pure orthorhombic crystalline form having a molybdenum content greater than approximately 60% by weight [p. 3, lines 25-29].

Dependent claim 61 recites the composition of claim 12 and the molybdenum oxide (MoO_3) is in the form of particles having a size of between 1 μm and 200 μm [p. 3, lines 30-31].

Dependent claim 62 recites the composition of claim 11 and the reinforcing agent is selected from the group consisting of praseodymium and neodymium, in the form of oxides [p. 3, lines 19-24; p. 4, lines 13-16; and p. 6, lines 30-32].

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 11-13, 15, 16, 18-21, 23, 24, 26-32, 39-41, 43-45, 47-49, 51, and 53-62 were properly rejected under 35 USC §103(a) as unpatentable over WO 02/38686 to Maze et al. in view of US Patent Application Publication 2004/0062873 to Jung et al.

Whether claim 52 was properly rejected under §103(a) for being unpatentable over Maze et al. in view of Jung et al. and further in view of US Patent 5,250,325 to Phillips et al.

VII. ARGUMENT

A. Rejection of Claims 11-13, 15, 16, 18-21, 23, 24, 26-32, 39-41, 43-45, 47-49, 51, and 53-62 Should Be Reversed

These claims were rejected for alleged obviousness based upon WO 02/38686 to Maze et al. in view of US 2004/0062873 to Jung et al.

Amendments were previously presented to claims 11, 18, 19, 30, and 62 which readily distinguish the rejected claims from the cited references to Maze et al. and Jung et al. The claimed compositions, as recited by the currently pending claims, call for a particular weight percentage concentration of a certain reinforcing agent in the form of an oxide. Specifically, the reinforcing agent is selected from yttrium oxide, zirconium oxide, lanthanum oxide, cerium oxide, praseodymium oxide, and neodymium oxide.

As explained in the present application, it is believed that the presence of at least one of the previously recited oxides in the claimed composition serves to reinforce the efficacy of the anticorrosion protection imparted by the particulate metal in the composition. That is, the anticorrosion properties of a system using sacrificial protection by a particulate metal, can be significantly increased by incorporation of one or more of the noted elements, in the form of oxides. As demonstrated in the testing results presented on pages 8-16 of the application, incorporation of one or more of these elements in the claimed compositions significantly improved their anticorrosion properties, as indicated for example, by resistance to salt spray.

Neither of the references to Maze et al. or Jung et al., teach, describe or even suggest the particular oxide forms of these reinforcing agents utilized in the recited weight proportions in a coating composition.

1. Deficiencies of WO '686 to Maze et al.

Maze et al. (WO 02/38686) disclose an anticorrosion coating composition comprising at least one particulate metal, an organic solvent, a thickener, a silane-based binder, molybdenum oxide and water.

The document to Maze et al. entirely fails to teach or even suggest a reinforcing agent for the anticorrosion properties of the composition selected from the group

consisting of yttrium, zirconium, lanthanum, cerium, praseodymium, in the form of oxides.

In the final Action, the Examiner admitted that the primary reference, i.e. Maze et al., fails to teach the recited reinforcing agents in oxide form:

> Maze et al. do not expressly teach a reinforcing agent for the anticorrosion properties of the composition selected from the group consisting of yttrium, zirconium, lanthanum, cerium, praseodymium and neodymium, in the form of oxides.

Pages 4 and 12 of Office Action mailed April 7, 2010.

2. Deficiencies of US '873 to Jung et al.

Jung et al (US 2004/0062873) disclose a paint-like coating comprising a) at least one organic film former containing at least one water-soluble or water-dispersed polymer with an acid value of 5 to 200; b) at least one inorganic compound in particle form; and c) at least one lubricant and/or at least one anti-corrosion agent.

The inorganic compound in particle form b) preferably comprises particles based on at least one compound of aluminium, barium, cerium, calcium, lanthanum, silicon, titanium, yttrium, zinc and/or zirconium, see paragraph [0043] of the '873 publication.

The document to Jung et al. entirely fails to teach or even suggest the specific choice of yttrium, zirconium, lanthanum, cerium, praseodymium or neodymium, in the form of oxides, to increase the anticorrosion properties of the paint-like coating. Nor is there any teaching provided by Jung et al. that one or more of the inorganic compounds in particle form taught by Jung et al. would increase the anticorrosion properties of the composition of Maze et al. That is, neither of the cited documents provides any teaching or suggestion of any strategy for increasing the anticorrosion properties of a system using sacrificial protection by a particulate metal.

On the contrary, the document to Jung et al. cites preferred inorganic compounds in particle form, i.e. in item b), which are not rare-earth metals (as recited in independent claim 11). For example, Jung et al. teach that calcium in particle form be used in their paint-like coating. Thus, one following the teachings of Jung et al. would be motivated to incorporate calcium and the like in a coating composition instead of the particular elements recited in pending claim 11. That is, Jung et al. actually teach away from the subject matter of claim 11. "A prima facie case of obviousness can be

rebutted if the applicant....can show 'that the art in any material respect taught away' from the claimed invention." *In re Haruna*, 249 F.3d 1327, 58 USPQ2d 1517 (Fed. Cir. 2001).

Moreover, the document to Jung et al. is not directed to an anticorrosion system comprising a particulate metal which sacrifices itself in favor of the metal parts to be protected. Instead, Jung et al. describe a paint-like coating composition. For at least this reason, it is doubtful that the teachings of Jung et al. are properly combinable with those of Maze et al.

Furthermore, it is respectfully submitted that upon further review, the Board will appreciate that it is not appropriate to apply the '873 publication to Jung et al. to the claims of the present application for at least the following reasons. Jung et al. explain that their paint-like coating "as far as possible is also free from organic and inorganic acids." See paragraph [0015] of the '873 publication to Jung et al. Jung et al. explain the reason for avoiding the use of acids as:

> [0013] Resin mixtures are known for which resins are blended with inorganic acids in order thus to obtain a pickling attack as well and hence a better contact of the resin coat directly with the metallic surface. These compositions have the drawback that, owing to the pickling attack, contamination occurs during the contacting of the treatment liquid (dispersion) to the substrate. This leads to the accumulation of metals in the treatment liquid and, as a result, to a permanent change in the chemical composition of the treatment liquid, thereby significantly impairing the corrosion protection. These metals are dissolved by the pickling attack out of the metallic surface of the substrate to be treated.

Paragraph [0013] of the '873 publication to Jung et al.

In contrast, the claimed compositions in certain embodiments may contain from 0.1% to 10% by weight of a mineral acid such as boric acid. Pending claims 31 and 57 specifically recite this aspect.

Thus, a formulator attempting to identify an anticorrosion coating composition (as recited in the pending claims) which may contain 0.1% to 10% of an acid, would <u>not</u> be motivated to consider the teachings of the '873 publication to Jung et al. since that publication teaches avoiding the use of acids. Since the '873 publication to Jung et al. teaches away from the present invention, that document should not be relied upon for the present rejection.

A Declaration was previously presented by the inventors on January 19, 2010 as to the surprising and unexpected results associated with the use of the recited

reinforcing agents in their oxide forms. This evidence, along with the results set forth in Tables 10 and 11 of the present application, demonstrates the nonobviousness of the compositions as recited in the claims.

Apparently, in an attempt to support the obviousness rejection, the Examiner referred to several disclosures by Jung et al. of cerium dioxide, yttrium oxide, and zirconium oxide, see page 5 of the final Office Action mailed April 7, 2010. Specifically in this regard, the Examiner argued:

> With particular preference the inorganic compound in particle form comprises particles based on at least one compound of lanthanum, of silicon, of titanium, of yttrium, of zinc and/or of zirconium, especially particles based on alumina, barium sulfate, lanthanide oxide(s) based (read on praseodymium or neodymium) (Page 6 ¶0051), cerium dioxide (read on cerium oxide or CeO_2), silica, silicate, titanium oxide, yttrium oxide (read on Y_2O_3), zinc oxide and/or zirconium oxide (read on ZrO_2) (Page 5, ¶0043)

A close reading of the passages of Jung et al. cited by the Examiner, i.e. paragraphs [0043] and [0051], reveals that those isolated mentions of several oxides are with regard to an inorganic compound taught by Jung et al. used as a loading agent and not as a corrosion inhibitor, and clearly not as a reinforcing agent. This fact was expressly confirmed by the inventors as set forth in item 6 of the Declaration previously filed on January 19, 2010 in response to the Office Action dated October 5, 2009.

The Examiner's attempt to combine the teachings of Maze et al. with those of Jung et al. is unsupported. The Examiner argues that "it would have been obvious... to include a reinforcing agent for the anticorrosion properties of the composition." The Examiner's entire argument is based upon a single presumption that such combination would improve the anti-corrosion properties of parts:

> At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify an anti-corrosion coating composition for metal parts by Maze et al. so as to include a reinforcing agent for the anticorrosion properties of the composition such as cerium dioxide or titanium oxide, yttrium oxide (read on Y_2O_3) (interchangeable for molybdenum oxide MoO_3 of Maze et al.) as taught by Jung et al. with reasonable expectation that this would result in improving the anti-corrosion properties of parts treated without using a composition based on reinforcing agent in the formulation of the coatings with less toxic risk and less adverse consequences for the environment as taught by Jung et al.

Page 13 of the final Office Action mailed April 7, 2010.

However, no rationale or explanation was provided for the purported "expectation." That is, why would the combination improve the anti-corrosion

properties? The Examiner failed to provide any specific reasons. Instead, the Examiner merely asserted an unsupported conclusion. Furthermore, it was argued that such combination would improve "the anti-corrosion properties of parts treated without using a composition based on reinforcing agent in the formulation of the coatings with less toxic risk and less adverse consequences for the environment as taught by Jung et al." (See previously quoted passage from final Office Action). It is unclear what is meant by "without using a composition..."

Perhaps of even greater significance is that no explanation or support was given as to how one would be motivated to combine the references to Maze et al. and Jung et al. in the particular fashion as was attempted to support the present rejection. Clearly, the present rejection was reached by impermissible hindsight reconstruction. Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 227 USPQ 543 (Fed. Cir. 1985); Grain Processing Corp. v. American Maize-Products Corp., 840 F.2d 902, 5 USPQ2d 1788 (Fed. Cir. 1988); In re Fritch, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992); and Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc., 381 F.3d 1371 (Fed. Cir. 2004).

As for the Declaration, the Examiner essentially dismissed it without any explanation. Instead, the Examiner simply contended that it was "insufficient," see page 13 of the final rejection of April 7, 2010. The Declaration constitutes evidence and thus it should have been considered and specifically addressed. "Opinions of the contemporaneous beliefs of those skilled in the field as to nonobviousness merit fair weight." In re Corkill, 771 F.2d 1496, 226 USPQ 1005 (Fed. Cir. 1985); "When rebuttal evidence is provided, the prima facie case dissolves..." "An applicant may rebut a prima facie case of obviousness by providing a showing of facts supporting the opposite conclusion." "Rebuttal evidence may show...that the claimed invention achieved unexpected results relative to the prior art...that the prior art teaches away from the claimed invention..." In re Harris, 409 F.3d 1339 (Fed. Cir. 2005).

In view of the foregoing, it is respectfully submitted that the present rejection under §103 based upon the purported combination of Maze et al. and Jung et al. has been overcome and therefore the rejection must be reversed.

B. Rejection of Claim 52 Should be Reversed

Claim 52 depends from independent claim 11, and so contains all of the recitations of that claim. Since claim 11 is patentable over the cited art, so too is claim 52.

The '325 patent to Phillips et al. does not remedy the deficiencies of the combination of Maze et al. and Jung et al. Accordingly, it is respectfully submitted that the present rejection of claim 52 be reversed.

Conclusion

In view of the foregoing, it is respectfully submitted that claims 11-13, 15, 16, 18-21, 23, 24, 26-32, 39-41, 43-45, 47-49, and 51-62 are allowable over the prior art references of record, and a ruling from the Board to that effect is therefore respectfully requested.

Respectfully submitted,

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CLAIMS APPENDIX

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Previously Presented) An anticorrosion coating composition for metal parts, which composition contains:

10% to 40% by weight of at least one particulate metal;

0.5% to 10% by weight of a reinforcing agent for the anticorrosion properties of the composition selected from the group consisting of yttrium, zirconium, lanthanum, cerium, praseodymium and neodymium, in the form of oxides;

3% to 20% by weight of a binder, wherein said binder is a mixture of an alkoxylated silane and another component; and

either water optionally associated with one or more organic solvents, or one or more inter-miscible organic solvents selected from the group consisting of white spirits, alcohols, keytones, aromatic solvents, glycol solvents, acetates, nitropropane and their mixtures.

12. (Previously Presented) The composition according to claim 11, wherein said reinforcing agent for the anticorrosion properties of the composition is associated with molybdenum oxide MoO_3.

13. (Previously Presented) The composition according to claim 12, which composition contains 0.5% to 2% by weight molybdenum oxide MoO_3.

14. (Cancelled)

15. (Previously Presented) The composition according to claim 11, wherein the particulate metal is selected from the group consisting of zinc, aluminium, tin, manganese, nickel, their alloys, and their mixtures.

16. (Previously Presented) The composition according to claim 11, wherein the particulate metal is selected from the group consisting of zinc, aluminum, their alloys and their mixtures.

17. (Cancelled)

18. (Previously Presented) The composition according to claim 11, wherein said reinforcing agent for the anticorrosion properties of the composition is yttrium oxide.

19. (Previously Presented) The composition according to claim 11, wherein said reinforcing agent for the anticorrosion properties of the composition is cerium oxide.

20. (Previously Presented) The composition according to claim 11, wherein said reinforcing agent for the anticorrosion properties of the composition is selected from the group consisting of La_2O_3, Pr_6O_{11}, Nd_2O_3 and ZrO_2.

21. (Previously Presented) The composition according to claim 11 wherein said reinforcing agent for the anticorrosion properties of the composition is associated with molybdenum oxide MoO_3 in a weight proportion of $0.25 <$ anticorrosion property reinforcing agent : $MoO_3 < 20$.

22. (Cancelled)

23. (Previously Presented) The composition according to claim 11, wherein the other component of said binder is selected from the group consisting of a silicone resin, a colloidal silica, a silicate of sodium and/or potassium and/or lithium, a zirconate, a titanate, an epoxy resin, a phenoxy resin, an acrylic and their mixtures.

24. (Previously Presented) The composition according to claim 11, wherein the alkoxylated silane is γ-glycidoxypropyl-trimethoxysilane or γ-glycidoxypropyltriethoxysilane.

25. (Cancelled)

26. (Previously Presented) The composition according to claim 11, which composition further contains up to 7% by weight of a thickening agent.

27. (Previously Presented) The composition according to claim 26, wherein said thickening agent is selected from the group consisting of cellulose derivatives, xanthane gum, associative polyurethane thickeners or acrylic thickeners, silicas, silicates, organophilic clays, and their mixtures.

28. (Previously Presented) The composition according to claim 11, which composition further contains a lubricating agent to obtain a self-lubricated system selected from the group consisting of polyethylene, polytetrafluoroethylene, MoS_2, graphite, polysulfones, synthetic or natural waxes and nitrides, and their mixtures.

29. (Previously Presented) The composition according to claim 11, which composition further contains an additive selected from the group consisting of an antifoam agent, a wetting agent, a surfactant and a biocide.

30. (Previously Presented) The composition according to claim 11, which composition contains:

10% to 40% by weight of at least one particulate metal;

0.5% to 10% of a reinforcing agent for the anticorrosion properties of the composition selected from the group consisting of yttrium, zirconium, lanthanum, cerium, praseodymium and neodymium, in the form of oxides, optionally associated with molybdenum oxide MoO_3;

up to 7% by weight of a thickener;

3% to 20% by weight of a binder wherein said binder is a mixture of an alkoxylated silane and another component;

up to 3% by weight of a sodium and/or potassium and/or lithium silicate;

up to 7% by weight of one or more lubricating agents;

1% to 30% by weight of an organic solvent or a mixture of organic solvents, and

water to make up to 100%.

31. (Previously Presented) The composition according to claim 30, which composition further contains 0.1% to 10% by weight of a weak mineral acid.

32. (Previously Presented) The composition according to claim 30, which composition further contains 0.01% to 1% by weight of an anionic surfactant.

33. (Cancelled)

34. (Cancelled)

35. (Cancelled)

36. (Cancelled)

37. (Cancelled)

38. (Cancelled)

39. (Previously Presented) The composition according to claim 11, which composition contains from 1% to 8% by weight of said reinforcing agent.

40. (Previously Presented) The composition according to claim 39, which composition contains from 1% to 7% by weight of said reinforcing agent.

41. (Previously Presented) The composition according to claim 18, wherein said reinforcing agent is yttrium in the oxide form Y_2O_3.

42. (Cancelled)

43. (Previously Presented) The composition according to claim 19, wherein said reinforcing agent is cerium in the oxide form CeO_2.

44. (Previously Presented) The composition according to claim 21, wherein said reinforcing agent is associated with molybdenum oxide MoO_3 in a weight proportion of $0.5 <$ anticorrosion property reinforcing agent: $MoO_3 < 16$.

45. (Previously Presented) The composition according to claim 44, wherein said reinforcing agent is associated with molybdenum oxide MoO_3 in a weight proportion of $0.5 <$ anticorrosion property reinforcing agent: $MoO_3 < 14$.

46. (Cancelled)

47. (Previously Presented) The composition according to claim 11, wherein the glycol solvents include glycol ethers.

48. (Previously Presented) The composition according to claim 47, wherein the glycol ethers are selected from the group consisting of diethyleneglycol, triethyleneglycol, dipropyleneglycol, polyethyleneglycol, and their mixtures.

49. (Previously Presented) The composition according to claim 30, wherein the composition contains between 0.05% and 2% by weight of a sodium and/or potassium and/or lithium silicate.

50. (Cancelled)

51. (Previously Presented) The composition according to claim 11, wherein the alkoxylated silane is organofunctionalised.

52. (Previously Presented) The composition according to claim 11, wherein the binder is associated with a phenolic crosslinking agent or an aminoplastic crosslinking agent.

53. (Previously Presented) The composition according to claim 27, wherein the thickener includes a cellulose derivative.

54. (Previously Presented) The composition according to claim 53, wherein the cellulose derivative is selected from the group consisting of hydroxymethyl cellulose,

hydroxyethyl cellulose, hydroxypropyl cellulose, hydroxypropylmethyl cellulose, and their mixtures.

55. (Previously Presented) The composition according to claim 27, wherein the thickener includes silicates.

56. (Previously Presented) The composition according to claim 55, wherein the silicates are selected from the group consisting of silicates of magnesium, silicates of lithium, and their mixtures.

57. (Previously Presented) The composition according to claim 31, wherein the weak mineral acid is boric acid.

58. (Previously Presented) The composition according to claim 11, wherein the particulate metal is added to the composition in powder form of varying geometric structure, homogenous or heterogeneous, in particular of spherical, lamellar or lenticular structure.

59. (Previously Presented) The composition according to claim 41, wherein said yttrium oxide Y_2O_3 is used in the form of particulates having a size of between 1 µm and 40 µm with a D_{50} of less than 3 µm.

60. (Previously Presented) The composition according to claim 12, wherein said molybdenum oxide MoO_3 is in an essentially pure orthorhombic crystalline form having a molybdenum content greater than approximately 60% by weight.

61. (Previously Presented) The composition according to claim 12, wherein said molybdenum oxide MoO_3 is in the form of particles having a size of between 1 μm and 200 μm.

62. (Previously Presented) The composition according to claim 11, wherein the reinforcing agent is selected from the group consisting of praseodymium and neodymium, in the form of oxides.

EVIDENCE APPENDIX

A Declaration by inventors Jean-Marie Poulet and Alain Chesneau dated January 6, 2010 was submitted under 37 CFR §1.132. That Declaration was filed concurrently with Applicant's Amendment "C" filed on January 19, 2010 in response to the Office Action dated October 5, 2009.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.